How Do Climate Change and Energy-related Partnerships Impact Innovation and Technology Transfer?

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13 How Do Climate Change and Energy-Related Partnerships Impact Innovation and Technology Transfer?: Some Lessons for the Implementation of the UN Sustainable Development Goals

Ayşem Mert and Philipp Pattberg

Introduction

Public–private partnerships (PPPs) – that is, networks among different societal actors, including governments, international organizations, companies, research institutions, and civil society organizations – have been widely endorsed and applied across a number of global public policy arenas, from health to climate change. For example, in 2000, former United Nations Secretary-General Kofi Annan launched the Global Compact, a voluntary partnership between corporations and the United Nations (UN). More recently, PPPs have been discussed as a major implementation mechanism for the UN's ambitious 2030 Agenda for Sustainable Development (2030 Agenda) and its related Sustainable Development Goals (SDGs).[1] Furthermore, partnerships now also form an integral part of the non-state action agenda on climate change.[2] In the words of former UN Secretary-General Ban Ki-Moon, "[a]ddressing global challenges requires a collective and concerted effort, involving all actors. Through partnerships and alliances, and by pooling comparative advantages, we increase our chances of success."[3]

Partnerships for sustainable development emerged as voluntary cooperative arrangements between governments and non-state actors to address specific sustainability goals. They were promoted, particularly at the 2002 Johannesburg World Summit on Sustainable Development (WSSD), where PPPs clearly emerged as an alternative governance mechanism to the traditional intergovernmental agreements and diplomatic processes, which the Summit failed to produce. Since then, PPPs have become widespread, if not the dominant mode of governance in various issue areas, particularly in the transnational climate, energy, and sustainability policies.[4] For example, the United Nations

[1] Sustainable Development Knowledge Platform, *Transforming our World: the 2030 Agenda for Sustainable Development*, U.N. Dep't of Econ. and Soc. Affairs, https://sustainabledevelopment.un.org/post2015/transformingourworld. In particular, SDG 9 exhorts member states to "[b]uild resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" and SDG 13 specifically urges them to "[t]ake urgent action to combat climate change and its impacts."

[2] Sander Chan et al., *Reinvigorating International Climate Policy: A Comprehensive Framework for Effective Nonstate Action*, 6 Global Pol'y 466–473 (2015).

[3] United Nations Office for Partnerships, nonwww.un.org/partnerships/.

[4] We understand the transnational level as involving at least one non-state actor involved in cross-border governance, whereas the global level involves nation-states and/or non-state actors engaging in activities that focus on worldwide governance. Thus, global can refer to either transnational governance and/or to more traditional initiatives via public sector and inter-governmental regulatory regimes.

Commission on Sustainable Development (UNCSD) has over 330 registered initiatives (largely overlapping with the sample discussed later in this chapter). In the 2012 Rio+20 Summit, over seven hundred voluntary arrangements were added to the list of similar voluntary arrangements. Launched in early 2016, UN's Partnerships for SDGs database has 2,088 registered initiatives, and the international cooperative initiatives (so-called ICIs) that are emerging in the aftermath of the 2015 Paris Agreement are also growing rapidly. These operate beyond the auspices of the UNFCCC and are driven by smaller groups of like-minded countries, often including companies, NGOs, academia, international organizations and sub-national public actors such as cities.

Despite their memetic success, the role and relevance of these partnerships remain contested. Some observers view the new emphasis on PPPs as problematic, since voluntary public–private governance arrangements might privilege more powerful actors[5] in particular those located in the so-called global North, comprised almost entirely of industrialized countries. In addition, these arrangements arguably consolidate the privatization of governance and dominant neo-liberal modes of globalization,[6] wherein institutions are installed but neither governance deficits are addressed nor public goods procured.[7] Some also argue that partnerships lack accountability and democratic legitimacy.[8] By contrast, others see PPPs as a governance innovation that addresses various deficits of inter-state politics by bringing together key actors across the public, private, and nonprofit sectors.[9] While some scholars regard governance deficits as a generic phenomenon in international relations,[10] others focus on a particular governance deficit such as the democratic deficit and problems of legitimacy,[11] the implementation deficit, or the regulatory deficit impacting global regimes such as global climate change regulation.

Despite these critiques and observations, PPPs are relevant for the governance of climate change and energy, and the related challenge of technology transfer for the following reasons. As a descriptive matter, in the follow-up to the 2015 Paris Agreement, transnational non-governmental actors have become a main provider of public goods and policies. Since then, the economic and discursive transformations in climate politics have consistently been focused around the steering and orchestrating powers of the states and inter-state system, which enable collaborations of non-state actors with sub-state

[5] Verena Bitzer et al., *Intersectoral Partnerships for a Sustainable Coffee Chain: Really Addressing Sustainability or Just Picking (Coffee) Cherries?*, 18 Global Envtl. Change 271–284 (2008); Karlijn Morsink et al., *Multi-stakeholder Partnerships for Transfer of Environmentally Sound Technologies*, 39 Energy Pol'y 1–5 (2011).

[6] Marina Ottaway, *Corporation Goes Global: International Organizations, Nongovernmental Organization Networks, and Transnational Business*, 7 Global Governance 265–292 (2001).

[7] Ayşem Mert, *The Privatisation of Environmental Governance: On Myths, Forces of Nature, and other Inevitabilities*, 21 Envtl. Values 475–498 (2012).

[8] James Meadowcroft, *Who is in Charge Here? Governance for Sustainable Development in a Complex World*, 9 J. Envtl. Pol'y & Plan. 299–314 (2007); Ayşem Mert, Environmental Governance Through Partnerships: A Discourse Theoretical Study 230–249 (2015).

[9] *See generally* Wolfgang H. Reinicke, Global Public Policy: Governing Without Government? (1998); Charlotte Streck, *New Partnerships in Global Environmental Policy: The Clean Development Mechanism*, 13 J. Env't & Dev. 295–322 (2004).

[10] Peter Haas, *When Does Power Listen to Truth? A Constructive Approach to the Policy Process*, 11 J. Eur. Pub. Pol'y 569–592 (2004).

[11] Karin Bäckstrand, *Democratizing Global Environmental Governance? Stakeholder Democracy after the World Summit on Sustainable Development*, 12 Eur. J. Int'l Rel. 467–498 (2006).

agents and communities. Secondly, PPPs are intended to facilitate the provision of global *public* goods.[12] Relatedly, individual partners may lack full global, regional, or regulatory authority to reach their aims; therefore, the provision of goods or services depends on a coalition of social forces. Consequently, by involving various stakeholders, the promise of partnerships is to produce public goods with more consensus and participation. In this context, the supervision, oversight, and liability emerge as critical issues for PPP researchers to investigate further.

In the context of this chapter, we understand the relationship between partnerships and intellectual property rights (IPRs) as part of a broader inquiry relating to technology transfer and institutional innovation. First, we examine whether climate and energy-related partnerships focus on technical implementation of existing technologies, technology transfer, knowledge dissemination, and/or innovation. Then we analyse their success in tackling the problems they were set up to tackle. To achieve this end, the chapter draws on a multi-year research project on the emergence and effectiveness of PPPs for sustainable development that utilizes a large database, the Global Sustainability Partnerships Database (GSPD), to understand better the role and relevance of PPPs in contemporary global environmental governance.[13] The empirical focus in this chapter is on partnerships focusing on climate change and/or energy.

The chapter first defines partnerships as a case of network governance and briefly discusses the origins of partnerships for sustainable development. We then provide an overview of the status of technology innovation and technology transfer in multilateral environmental governance. This provides important context for the next section, an empirical analysis of the performance of PPPs in the climate and energy sub-field. Three findings from our study are particularly noteworthy. First, neither technological nor social innovation is a dominant function of climate and energy partnerships, despite the transformative potential of such innovations for sustainability. Second, even accepting any stakeholder from a developing country as representative of the poor countries, significant issues pertain to the democratic legitimacy of individual partnerships, the technologies transferred, the resulting innovation regimes, and their overall orchestration by the UNCSD. Third, the climate and energy partnerships surveyed here show alarmingly low levels of potential effectiveness. After these findings are presented and supported, the chapter concludes with lessons learned and suggestions for improving partnerships as an instrument of change as envisioned by the 2030 Agenda.

I PPPs and the Transformation of World Politics: Context and Definitions

A *Partnerships as Networks*

Environmental policy, both domestic and international, traditionally falls under the authority of the government. However, in recent years, this state-centric conception of environmental governance is increasingly contested. Scholars have highlighted the

[12] Joseph E. Stiglitz, *Knowledge* as *a Global Public Good*, *in* Global Public Goods: International Cooperation in the 21st Century 308 (Inge Kaul et al. eds., 1999).

[13] *See generally* Public–private partnerships for Sustainable Development: Emergence, Influence and Legitimacy (Philip Pattberg et al. eds., 2012).

transformation of a territorial-based global order to one of multiple spheres of authority in flexible and issue-specific arrangements.[14] Mirroring debates about the organizational transformation of the modern nation state, theorists of international relations have begun to reflect on the changing nature of the state system itself.[15] One central empirical observation is the emergence of networked forms of organization that operate under a different logic compared to other ideal types of social organization, such as markets and hierarchies.[16] Whereas in the domestic context network governance has been discussed as a complementary and gradual innovation of older forms of policy making (for example, corporatism), networks at the transnational and global level have been largely conceptualized as new forms of governance that would overcome the limitations of traditional top-down intergovernmental policy making.[17]

Within the field of political science, broadly speaking, networks are understood as interactions of organizational actors. Consequently, the concept of policy networks refers to the production of public policies through a relatively stable and defined interaction of actors within a policy field. Policy networks are analysed as polycentric governance arrangements that integrate the competing interests of actors within a horizontal structure. This conceptualization stands in contrast to older conceptions, according to which the formulation and implementation of public policies are the sole responsibility of governments (in their attempt to transform the preferences of voters into adequate political programs) and the organized interests of non-state actors are recognized only insofar as they address the public decision-making process.

The policy network approach reflects the transformation of policy making in modern societies. It analyses the emergence of network governance as a reaction to a number of interconnected trends, including neo-liberal globalization and the resulting narratives that identify public and private interests, the increase in sub-systemic autonomy within the formerly monolithic nation state, the increasingly versatile demands from the state resulting in more state functions and its accompanying bureaucracies, as well as the growth and further differentiation of civil society.

Public–private partnerships as a form of network governance are by no means a novel phenomenon. Before taking centre stage in scholarship on global governance and international relations in the early 2000s, PPPs enjoyed sustained attention in the domestic policy context, in particular in health and infrastructure. PPPs were actively promoted as an instrument to increase governance effectiveness as part of the "New Public Management" paradigm of the early 1980s. Since the 1990s, PPPs have also been promoted at the international level as instruments for good governance and deliberative democracy,

[14] James N. Rosenau, Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World 467 (1997); Philipp Pattberg & Johannes Stripple, *Beyond the Public and Private Divide: Remapping Transnational Climate Governance in the 21st Century*, 8 Int'l Envtl. Agreements: Pol., L. & Econ. 367–388 (2008).

[15] Alexander Wendt, *Anarchy is What States Make of it: The Social Construction of Power Politics*, 46 Int'l Org. 391–425 (1992); Mark W. Zacher, *The Decaying Pillars of the Westphalian Temple: Implications for International Order and Governance*, *in* Governance Without Government: Order and Change in World Politics 58 (James N. Rosenau & Ernst-Otto Czempiel eds., 1992).

[16] Gráinne de Búrca, *New Governance and Experimentalism*, 2010 Wisc. L. Rev. 227, 232 (2010).

[17] Tanja A. Börzel, *Organizing Babylon – On the Different Conceptions of Policy Networks*, 76 Pub. Admin. 253–273 (1998); *see also* Margaret Chon, *PPPs in Global IP (public–private partnerships in global intellectual property)*, *in* Methods and Perspectives in Intellectual Property 296 (Graeme B. Dinwoodie ed., 2013).

with the additional aim to increase the legitimacy and effectiveness of multilateral policies. Mirroring many aspects of the debate about new public management at the domestic level, the concept of network governance has been recently transferred to the global level. The appropriateness of the network approach in this context is frequently justified by referring to the changing capacity of states to govern effectively under the constraints of de-nationalization and accelerating globalization.[18] However, the growing literature on PPPs suffers from conceptual confusion, rival definitions, disparate research traditions, and oftentimes an implicit normative and value-laden agenda of promoting partnerships. This state of conceptual vagueness has led some scholars to question the usefulness of the concept and to dismiss the term PPP as empty and misleading[19]. While the conceptual broadness of this key term, with its multiple uses, has hampered knowledge accumulation on the subject, it has not prevented a diverse literature on PPPs as novel global governance instruments. Partnerships, both national and transnational, have been analysed as hybrid governance arrangements for the provision of collective goods that contribute to the transformation of political authority from government and public actors towards non-state actors, such as business and non-governmental organizations (NGOs)[20].

In this chapter, we build upon a scholarly tradition that understands public–private, multi-stakeholder partnerships for sustainable development as a form of global governance beyond traditional forms of international cooperation. Most scholars agree on several features that constitute PPPs.[21] Important characteristics include:

- transnationality (involving cross-border interactions and non-state relations);
- public policy objectives (as opposed to public bads or exclusively private goods); and
- a network structure (coordination by participating actors rather than coordination by a central hierarchy).

While this common understanding is quite narrow, it still covers a wide range of phenomena. For example, the functions of partnerships are varied and include agenda setting, rule-making and standard setting, advocacy, implementation, and service provision.[22] Furthermore, PPPs appear in different sectors such as sustainable development, health, human rights development, security, and finance. They vary in degree of institutionalization and permanence. In the public health sector, as described by several chapters in this volume, partnerships have enabled greater accessibility of treatments at lower prices. Finally, partnerships have different geographical scopes from the local, national, and regional, to the global level.

[18] Michael Zürn, Regieren Jenseits des Nationalstaates (1998); The Emergence of Private Authority in Global Governance 1–248 (Rodney B. Hall & Thomas Biersteker eds., 2002).

[19] Derick W. Brinkerhoff & Jennifer M. Brinkerhoff, *Public–Private Partnerships: Perspectives on Purposes, Publicness, and Good Governance*, 31 Pub. Admin. and Dev. 2–14 (2011).

[20] Marco Schäferhoff et al., *Transnational Public–Private Partnerships in International Relations: Making Sense of Concepts, Research Frameworks, and Results*, 11 Int'l Stud. Rev. 451–474, 455 (2009); Pattberg & Stripple, *supra* note 14.

[21] Schäferhoff, *supra* note 20, at 455.

[22] Jens Marten, *Multi-stakeholder Partnerships-Future Models of Multilateralism?*, Friedrich-Ebert-Stiftung: Occasional Papers Berlin (January 2007), http://library.fes.de/pdf-files/iez/04244.pdf; *See generally* Benedicte Bull & Desmond McNeill, Development issues in global governance: public-private partnerships and market multilateralism (2007).

B *The Origins of WSSD Partnerships in Environmental Governance*

Partnerships for sustainable development were defined as "voluntary multi-stakeholder initiatives, which contribute to the implementation of inter-governmental commitments" in Agenda 21, as well as in the Programme for the Further Implementation of Agenda 21 and in the Johannesburg Plan of Implementation. A set of guidelines (the Bali Guiding Principles) were developed, defining partnerships within the UN system.[23] The definitions of partnerships as voluntary implementation instruments as well as the Bali Guidelines were both agreed upon in the preparatory process to the 2002 WSSD.[24] These negotiations involved not only delegates and UN representatives, but also non-state actors. The resulting conceptualization was a compromise; the guidelines were non-binding criteria that lacked screening, monitoring, or reporting procedures. No central body was designated to oversee the evolving partnerships regime. Nonetheless, partnerships became an official part of the UN environmental governance system once they were accepted as an official outcome of the WSSD, despite opposition from several major groups (particularly environmental NGOs and trade unions) and country delegations (particularly those from poor countries).

Although the term partnership can be found in UN documents at least since 1992, partnerships were only considered as an official outcome of an intergovernmental process in the preparatory phase of the WSSD, because pressure to produce a concrete deliverable at the WSSD in Johannesburg was mounting.[25] Shortly after the United Nations Department for Economic and Social Affairs (UNDESA) proposed non-binding outcomes in the form of partnerships as a possible outcome, "the US expressed appreciation for [them] and called for "space" at the WSSD to allow for related dialogues."[26] The concept had earlier been developed by UNDESA to increase NGO involvement and reflect on a past decade of environmental governance. But most importantly, partnerships were meant to break through existing donor fatigue: as reported by one UNDESA representative, "[e]very responsibility was being put at the feet of the governments. There was a strong push that this [responsibility to implement] should be shared."[27]

During the run-up to the WSSD conference, the United States and business and industry representatives explicitly supported a vaguely defined partnership process, which raised suspicions with NGO and other country representatives. The issues were numerous: for instance, European Union delegations and environmental NGOs were worried that partnerships could become an instrument to repudiate international environmental agreements. Another concern of the NGO community was the increasing business involvement in the UN and the expected green-/blue-washing of corporate activities. Some delegations had started to perceive partnerships as a threat to their sovereignty.

[23] United Nations Brochure, *Partnerships for Sustainable Development*, U.N. Doc. DPI/2323 — 03–46703 (August 2003), www.un.org/esa/sustdev/partnerships/publications/brochure_E.pdf. The Bali Guiding Principles are criteria that guide the formation of the UNCSD partnerships agreed at the Fourth Preparatory Committee Meeting to the WSSD, in Bali (27 May–7 June 2002).

[24] The World Summit on Sustainable Development (WSSD or Earth Summit 2002) took place in Johannesburg, South Africa, from 26 August to 4 September 2002.

[25] The final decision of PrepCom IV mentions partnerships as "events" to take place before the summit.

[26] *Earth Negotiations Bulletin- Summary of the Second Session of the Preparatory Committee for the World Summit on Sustainable Development*, International Institute for Substantial Development (Feb 11, 2002) www.iisd.ca/vol22/enb2219e.html.

[27] Interview with a UNDESA representative at the time of the WSSD in New York (May 2007).

Developing country delegations (particularly China, Indonesia, and Malaysia) had become increasingly worried about the possibility that developmental projects within their national borders would pick and choose which international or national NGOs to work with. As a result, some delegations raised questions about non-state actor participation.

The framework that was ultimately negotiated was meant to address various governmental concerns in order to make partnerships an agreeable outcome to all parties involved. The resulting Bali Guidelines establish the framework that guides the arrangement and registration of partnerships with the UNCSD. These guidelines consisted of conflicting visions regarding the role, function, and nature of partnerships; while warning about potential negative effects, they failed to address and avoid them[28]. For instance, PPPs were to complement inter-governmental agreements, but the Summit failed to produce any binding agreements, even on the most pressing issues such as climate change, or biodiversity governance. It was not clear whether their main goal was to address the implementation deficit, or to create more participatory processes. By listing various expectations in their framing, the guidelines depicted sustainability partnerships in an ideal form, almost impossible to reach with their actual capacity. Most importantly, the partnerships process remained non-binding. Because they were not accompanied by a strong screening process or a monitoring mechanism, effective implementation of sustainability principles was unlikely.

Thus in the various preparatory meetings for the WSSD, partnerships were defined, negotiated, and re-constructed such that they would be acceptable to all parties involved. In this process, conflicts about who the relevant stakeholders are (inclusive or not of businesses and NGOs), what the aim of partnerships should be (implementation versus participation), and how they should be screened and monitored were not addressed head-on. Nonetheless, with the Bali Guidelines, partnerships have been defined as voluntary multi-stakeholder initiatives to achieve the sustainability goals agreed upon through the inter-governmental system. One of the main expectations from these new governance mechanisms was to create win-win situations wherein the interests of all actors would be served. This has already made partnerships desirable for most parties, because staying outside of these networks meant 'not to win.'

Social innovation is at the heart of global environmental governance and it is also intricately related to sustainability partnerships. Various academic disciplines have recently studied this relationship[29] revealing how the UN's focus on partnership and technology transfer as major sustainability goals prioritizes a particular type of partnership and innovation over others. For instance, partnerships have been regarded as a social and legal innovation of transnational governance since Agenda 21, as they allow for stakeholder involvement, and address the participation deficit. However, there are various complications in the implementation of this principle: The participation principle is only nominally operative in partnerships. Having a local partner from a recipient country is

[28] Ayşem Mert, *Hybrid Governance Mechanisms as Political Instruments: The Case of Sustainability, Partnerships*, 14 Int'l Envtl. Agreements 225–244 (2013).

[29] John D. Wolpert, *Breaking Out of the Innovation Box*, 80 Harv. Bus. Rev. 76–83 (2002);
John Adeoti et al., *Biotechnology R&D Partnership for Industrial Innovation in Nigeria*, 25 Technovation 349–365 (2005); Dominique Kleyn, et al., *Partnership and Innovation in the Life Sciences*, 11 Int'l J. Innovation Mgmt. 323–330 (2007).

regarded as sufficient condition to deem the partnership democratic, even though this does not ensure the social acceptability of the technologies transferred. Furthermore, any stakeholder from a developing country can represent recipient countries, even if this partner has no connection to the communities in question. The UN narratives on innovation and partnerships do not ensure legitimate participation practices, and in extreme cases they assume a false singularity of opinion among all stakeholders in a community, all communities in a country, or across countries. In sum, technology transfer in sustainable development potentially results in partnerships that reflect the already existing power inequalities, making innovation work for those who have something to offer: "If you don't have some money on the table, some time, and expertise, you are not a partner."[30]

II Technology Transfer in Multilateral Environmental Governance

One of the earliest references to the role of IPRs in environmental governance is made in Agenda 21, a non-binding, voluntarily implemented action plan for sustainable development, adopted by more than 178 governments at the United Nations Conference on Environment and Development held in Rio de Janerio, in 1992 (the Rio Summit).[31] These references can be found in a chapter devoted to *Transfer of Environmentally Sound Technology, Cooperation and Capacity-building*.[32] In this context, the transfer of technology and access to state-of-the-art technologies is regarded as a significant goal for sustainable development, for all countries. This foundational text foreshadows the dominant framing of IPRs in environmental governance. Technology transfer is central to this framing, which can be summarised as follows:

- It is recognised that "international business is an important vehicle for technology transfer," and advised that the power of such knowledge should be combined with "local innovations to generate alternative technologies."[33]
- The underlying necessity for technology transfer is explained as to enable developing countries "to make more rational technology choices," which can be achieved by providing access to technologies selected by the global North.[34]
- IPRs are regarded as rights that need protecting from abuse (mentioned three times).[35]

[30] Kent Buse, *Governing Public–Private Infectious Disease Partnerships*, 10 Brown J. World Aff. 232, 225–242 (2004).

[31] The United Nations Conference on Environment and Development (UNCED, also known as the Rio Summit, Rio Conference, and Earth Summit) was a major United Nations conference held in Rio de Janeiro from 3 to 14 June 1992.

[32] *U.N. Documents: Gathering a Body of Global Agreements*, U.N. Agenda 21 Chapter 34 ¶ 11, www.un-documents.net/agenda21.htm [hereinafter UN Documents]. IPRs are also mentioned elsewhere, for instance in the decisions following the Montreal Protocol of 1987 in a generic fashion, but are not decided upon in these contexts. *See* United Nations Environment Programme – Ozone Secretariat, Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/Earthprint (2006).

[33] UN Documents, *supra* note 32, at ¶ 11.

[34] UN Documents, *supra* note 32, at ¶ 12.

[35] UN Documents, *supra* note 32, at ¶ 18. The document does not determine, however, what the threat is or from where it originates.

- In order to promote and support "access to transfer of technology" to developing countries, Agenda 21 sets the goal of facilitating and financing "environmentally sound technologies and corresponding know-how, [. . .] on favourable terms, including on concessional and preferential terms [. . .] for the implementation of Agenda 21," and "to promote long-term technological partnerships between holders of environmentally sound technologies and potential users."[36]
- In terms of policy measures, the suggested action is the Northern countries to purchase the necessary patents and licences "on commercial terms for their transfer to developing countries on non-commercial terms as part of development cooperation" or even to promote acquisition through compulsory licensing to prevent their abuse.[37]
- Finally, regarding the management of technology transfer, it is emphasised that "the possibility of assigning this activity to already existing regional organizations should be fully explored before creating entirely new institutions, and funding of this activity through public–private partnerships should also be explored, as appropriate."[38]

The main aim of the various texts produced at the 1992 Rio Summit was to consolidate the ideological premises of sustainable development across the globe. The political function of Agenda 21, in particular, was to translate the global goals agreed upon at the Rio Summit into blueprints for local and national policy. To do this, it was critical to assure the private sector that the devices through which corporations exerted power (e.g., patents, liberal trade regimes, and commitment to growth) would not be threatened by the newly emerging sustainability regimes. Framing the roles of IPRs and technology transfer in this fashion allowed for a harmonious resolution of the contradictory goals of infinite economic growth with ecological limits. On the one hand, the technological know-how would be shared with the so-called developing countries through mechanisms such as compulsory licensing, which is an arguably bold and unprecedented reference in an international environmental text. On the other hand, various agencies and organizations in the international system were to be mobilised so that the property regimes would not be challenged by this action.

Following the Rio Summit, the role of IPRs in technology transfer was framed accordingly in both trade and environmental negotiations. The general framing of IPRs was fixed to the logic of IPRs' "dual role" in (i) fostering sustainability-focused technological innovation and (ii) its transfer.[39] Furthermore, the 1995 agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) sets the objective that "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations."[40]

[36] UN Documents, *supra* note 32, at ¶ 14.
[37] UN Documents, *supra* note 32, at ¶ 18.
[38] UN Documents, *supra* note 32, at ¶ 26.
[39] Ahmed Abdel-Latif et al., Overcoming the Impasse on Intellectual Property and Climate Change at the UNFCCC: A Way Forward (*International Centre for Trade and Sustainable Development*, Policy Brief No. 11, 2011), http://scholarship.law.duke.edu/faculty_scholarship/2480.
[40] Agreement on Trade-Related Aspects of Intellectual Property Rights (April 15, 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments – Result of the Uruguay Rounds 33 I.L.M. 81 (1994), www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm.

Agenda 21 itself does not provide an explicit blueprint to achieve this ambitious mixture of policy goals with regard to technological innovation and transfer, but rather suggests the prioritisation of the existing inter-governmental institutions and the exploration of PPPs as another means of policy implementation. Thus, the link between partnerships and IPRs was established at the same time as the founding of United Nations Framework Convention on Climate Change (UNFCCC) and as sustainable development was becoming the dominant discourse in global environmental governance. This point is important in understanding how partnerships have become a highly visible and highly discussed element of global sustainability governance.

As noted in the previous section, transnational PPPs have multiplied, especially since the 2002 Johannesburg Summit. And recently they have become an official action point for the UN in the context of Sustainable Development Goals (SDG), with SDG #17 aiming to "revitalize the global partnership for sustainable development."[41] In policy and academic debates alike, partnerships are promoted as solutions to deadlocked intergovernmental negotiations, ineffective treaties, overly bureaucratic international organizations, and many other real or perceived problems of regulatory coordination among states. Since their conception, partnerships have become a political process wherein opposing rationales are simultaneously upheld, whether the political rationales of the left and right, or the economic rationales of public and private[42]. However, systematic evidence of the impacts of transnational PPPs is scarce and the broader consequences of outsourcing and privatizing global and transnational environmental governance are not well understood. Most importantly, the strategy of introducing partnerships as a policy solution to conflicting interests and goals has not been assessed in a systematic fashion.

To summarize, there are two problems emerging from the particular way partnerships emerged around technology transfer issues: First, it reinforced the highly selective and partial relationship between innovation and international mandates, which has been observed also in TRIPS and the CBD[43]: Already in 1993, the Bellagio Declaration noted that those "who do not fit this model –custodians of tribal culture and medical knowledge, collectives practicing traditional artistic and musical forms, or peasant cultivators of valuable seed varieties, for example–are denied intellectual property protection."[44] Secondly, the win-win narrative, often used to legitimate PPPs, can have questionable and undesirable consequences.[45] Specifically, it prioritizes two issues on the UN's development agenda: The first one was institutional mainstreaming across the globe, a "one size fits all" solution regardless of historical differences. This was neatly named *institutional capacity building*, suggesting a lack in some places *vis-à-vis* others. The second issue was technology development and transfer. In a globalizing world, where capital and

[41] Sustainable Development Goals, *Goal 17: Revitalize the Global Partnership for Sustainable Development*, U.N. Dep't of Econ. and Soc. Affairs (Sept.29, 2017), www.un.org/sustainabledevelopment/global partnerships/.

[42] *See generally* Niels Åkerstrøm Andersen, Partnerships: Machines of Possibilities (2008).

[43] Eric Deibel & Ayşem Mert, *Partnerships and Miracle Crops: On Open Access and the Commodification of Plant Varieties*, 16 Asian Biotechnology and Dev. Rev., 1–33 (2014).

[44] *Statement of the Bellagio Conference on Cultural Agency/Cultural Authority: Politics and Poetics of Intellectual Property in the Post-Colonial Era*, IPCA (March 11, 1993) http://case.edu/affil/sce/Bellagio Dec.html [hereinafter Bellagio Statement].

[45] Ayşem Mert, Environmental Governance Through Partnerships: A Discourse Theoretical Study 230–249 (2015).

resources were regarded as flexible and transferable across markets, the sphere of environmental conservation provided a puzzling impediment: the most accessible 'resources' for energy production for the historically impoverished countries were the fossil fuels. Their governments now argued for their sovereign rights on these resources, which resulted in a fragmented climate/energy governance and difficult climate negotiations. With their win-win strategies, partnerships (in principle) would reduce the poverty levels in these areas by providing them with certain specific technologies. In return, the so-called developing countries would become testing grounds or resource providers or perhaps simply open their markets to some new products or technologies of the North.

This is not to suggest that the win-win solutions always work against the recipients. Many partnerships do introduce technologies that are necessary and needed by the communities that are on the receiving side of the transfer. Particularly when diverse sets of local stakeholders are involved, partnerships seem to find the most appropriate technologies that give communities more autonomy in its use and maintenance.[46] Examples of such technology transfer projects include the re-/introduction of indigenous technologies or water harvesting techniques to increase the resilience of communities at risk.

The point remains, however, that corporate involvement often assumes a neutral, if not benevolent, role to achieve the SDGs (and their predecessor Millennium Development Goals). Technology transfer is a central part of this image but it should not be taken for granted. For instance, many partnerships operate as platforms for controversial technologies allowing for a rebranding of nuclear energy, PVC, water purification chemicals, and so on.[47] Some instances of such involvement include Dow Chemical's sponsoring the Blue Planet Run to "bring safe drinking water to 1.2 billion people" (UNOP 2010), Coca Cola Foundation and Procter and Gamble both promoting not only a water disinfectant but also behavioural techniques directed towards improved hygiene in water deprived poor countries, or Royal Dutch Shell's membership in the Clean Air Initiative to enhance air quality in Asian cities.[48]

With this important background and context, the next section turns to our empirical findings.

III Empirical Analysis of WSSD Partnerships

In this section, we utilize a multi-year research project on the emergence and effectiveness of PPPs for sustainable development and the corresponding large database, the Global Sustainability Partnerships Database (GSPD) to understand the role and relevance of public–private partnerships in contemporary global environmental governance. The empirical analysis focuses on two sets of questions. First, we ask whether partnerships working on climate change and energy address issues of innovation and technology transfer in developing countries. For this to be the case, climate and energy partnerships would likely (i) implement on-the-ground projects that aim to transfer technology or

[46] Ayşem Mert & Eleni Dellas, *Assessing the Legitimacy of Technology Transfer Through Partnerships for Sustainable Development in the Water Sector*, *in* Public–Private Partnerships for Sustainable Development: Emergence, Influence and Legitimacy 209 (Philip Pattberg et al. eds., 2012).

[47] Mert, *supra* note 28; Mert and Dellas, *supra* note 46.

[48] CAI-Asia, Clean Air Initiative for Asian Cities (2010).

produce/disseminate knowledge; (ii) in poorer countries; (iii) with stakeholders from both rich and poor countries; (iv) and have legally binding contracts between partners.

Second, we scrutinize the overall effectiveness of climate change and energy partnerships. To do this, we use the GSPD, which was developed between 2006 and 2009 at the Institute for Environmental Studies, VU University Amsterdam. Based on data provided by the UNCSD, extensive desk studies, and numerous expert interviews, the GSPD provides information on descriptive categories such as partnership name, existence of website, number of countries in which partnerships implement their activities, number of and type of partners, type of lead partners, area of policy implementation and functions performed, geographical scope, duration, date of establishment, and resources reported to be required for each of the 330 partnerships registered with the UNCSD at the time the coding was completed in 2009. In addition, the GSPD also contains information about individual partnership output, that is, the concrete activities and programmes of partnerships for sustainable development. All data was coded by a team of researchers for whom an inter-rater reliability check has been performed. This chapter focuses on the general sample and the selection of partnerships that focus on climate and energy related goals of global sustainability governance.

The GSPD thus focuses on two effectiveness-related dependent variables: *global governance deficits* and *function-output fit*. We briefly explain these two concepts: The assessment of the overall effectiveness and influence of the partnership regime is based on three hypothetical *global governance deficits*[49] that partnerships are supposed to address: the regulatory deficit, the implementation deficit, and participatory deficit. First, partnerships are expected to confront the regulatory deficit in current sustainability governance by providing avenues for cooperation and joint problem-solving in areas where intergovernmental regulation is largely non-existent. A second deficit that partnerships are believed to fill is an implementation deficit in sustainability governance. That is, partnerships could help implement intergovernmental regulations that do exist but that are only poorly implemented, if at all. Third, partnerships are often expected to assist in solving a participation deficit in global governance. In this view, intergovernmental negotiations are seen as dominated by powerful governments and international organizations, while partnerships, by contrast, might ensure higher participation of less privileged actors, including voices from youth, the poor, women, indigenous people, and civil society at large. Increased participation from such groups is viewed as needed to improve the implementation of international agreements and to strengthen the overall legitimacy, accountability, and democratic quality of current governance systems.

After assessing whether PPPs contribute to addressing existing governance deficits, the GSPD was also constructed to evaluate *function-output fit*, i.e., the fit between a concrete function performed by a partnership and the output it creates (i.e., measurable results such as organizing training programs, publishing reports, developing curricula, and/or building infrastructure). While a more direct assessment of impacts would be preferable, no such assessments currently exist due to the methodological challenges involved. However, by comparing what the partnerships claim as their goal and function with their actual activities and products (output), the function-output fit reveals the accuracy and consistency of these declarations. The underlying assumption is that partnerships

[49] Haas, *supra* note 10.

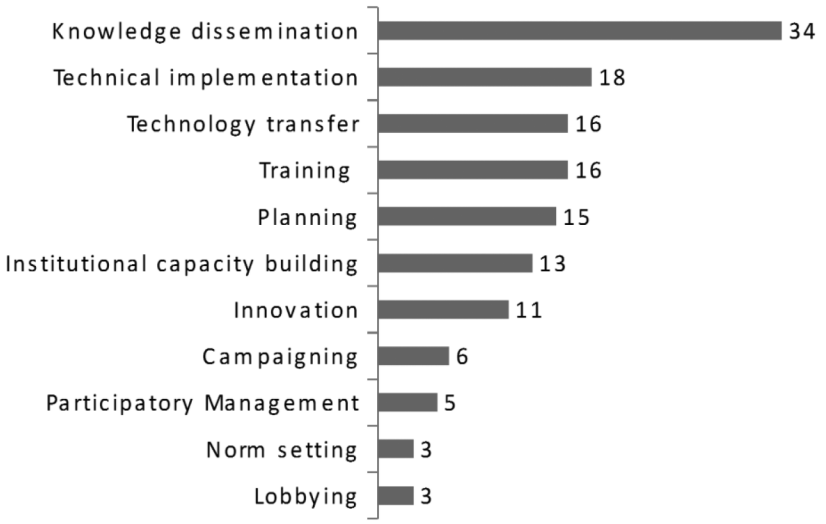

Figure 13.1. Goals and functions of climate and energy partnerships.

that have a good fit between function and output will be better equipped to have a positive effect on environmental indicators in the end.

To illustrate this reasoning, a partnership that claims to be first and foremost about implementation (e.g., through building new infrastructure) would be expected to have measurable output in this area, for example concrete infrastructure programs. A partnership that aims at knowledge transfer would in contrast be expected to have output in the field of research/publications, communications, or training. If the function and observed output are not aligned, conclusions about reaching the explicit goals can be drawn.

A *Innovation and Technology Transfer*

Among the 330 partnerships in GSPD, sixty partnerships focus on energy and climate issues. Approximately 56 per cent of partnerships focus on innovation, technology transfer, technical implementation, and knowledge dissemination.

The distribution of these functions reveals a concerning picture. On the one hand, the focus of climate and energy partnerships is more often on transforming infrastructure and disseminating knowledge. On the other hand, this transformation does not necessarily prioritize innovation or producing new knowledge. In fact, only eleven partnerships in this group aim at innovation, whereas others have the goal of disseminating already existing ideas, knowledge systems, and technologies.

In this context, it is necessary to ask if this apparent dependency for rights, technologies, and episteme is further exacerbated with the inclusion of business and industry in the partnerships. We have argued elsewhere[50] that the decision-making power of non-state actors as partners is rather limited, although their practices transform global governance in indirect ways. These indirect influences are important and at times they reveal intentions of the actors.

[50] Pattberg et al. 2012, *supra* note 13; Mert 2015, *supra* note 7.

For instance, voluntary and flexible governance mechanisms and commitments via partnerships can be organized on various issues by various actor constellations adhering to a number of internationally accepted norms. Equally telling are the omissions: At what level partnerships are not formed, what actors do not get involved, and which issues they do not address. The fact that partnerships do *not* emerge on indigenous and non-technological/low-tech ways of producing energy and generating a low-carbon future can therefore be contrasted to their more obvious technology transfer and knowledge dissemination focus.

Furthermore, the UNCSD is not the only platform in which climate and energy innovation would be transnationally governed. It is therefore of critical importance to study some of these cases in a more in-depth fashion in qualitative case studies. Although this qualitative assessment is beyond the purview of this chapter, some of our findings regarding the prominence of the business partners in the UNCSD climate and energy sample are set forth in greater detail in the next section.

B *Effectiveness*

In terms of partnership effectiveness, our findings are mixed. Forty per cent of climate and energy partnerships are not active or have produced no measurable output at all. Among the thirty-six partnerships that produce output, 42 per cent have a complete fit between their promised function and produced output, and 25 per cent have partial fit.

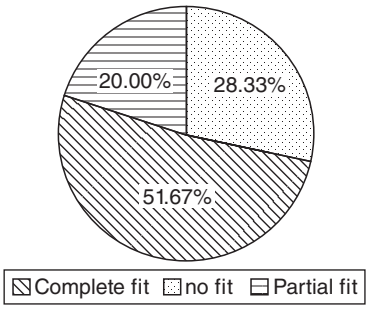

Figure 13.2. Active climate and energy partnership registered with CSD.

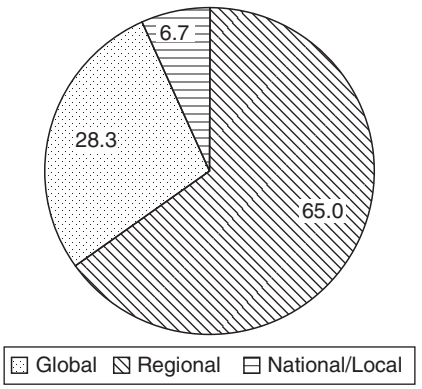

Figure 13.3. General characteristics of sample.

More specifically, sixteen of these partnerships focus on technology transfer. Ten of these sixteen partnerships have a partial or complete fit between the output they produced and their indicated goals of technology transfer.

The participatory/democratic deficit refers to the problem that those who are affected by decisions are rarely and very selectively included in the making of these decisions. Two indicators are used here to investigate the contribution of climate partnerships to closing the participatory/democratic deficit in global environmental governance. For partnerships to play a role in this area, we would expect at least

(1) a balanced distribution of *lead partners* (i.e., partners with a specific role to manage, organize and implement the partnership) from industrialised and developing countries; and from state and non-state actors;
(2) the presence of partners from developing countries and from among underrepresented groups.

This would show that the goal of addressing the participatory deficit is achieved at least to some degree through the inclusion of those who are often excluded. In the overall sample, neither of these expectations was found to be the case. Lead actors are often governments from the industrialized countries, or actors from the public sector at large (e.g., intergovernmental organizations), whereas the underrepresented groups remain excluded. Among partnerships focusing only on climate and energy policies, a similar picture emerges with regard to the participatory deficit. The first aspect that falls under the heading of participation is the concrete distribution of lead partners among state and non-state actors (see Figure 13.5). In short, climate partnerships are predominantly led by state actors, UN organizations, or other intergovernmental agencies, accounting for 60.2 per cent of all partnerships in the sample. While state involvement might be considered a positive sign in other issue areas, the climate change governance arena now critically depends on the involvement of non-state actors to implement the Paris Agreement. We therefore would expect a broader representation of these actors in the actual implementation stages.

This observation is comparable to the overall WSSD sample.

What is noteworthy in this context, however, is the level of business involvement: Climate and energy partnerships have a much larger number of business actors as lead

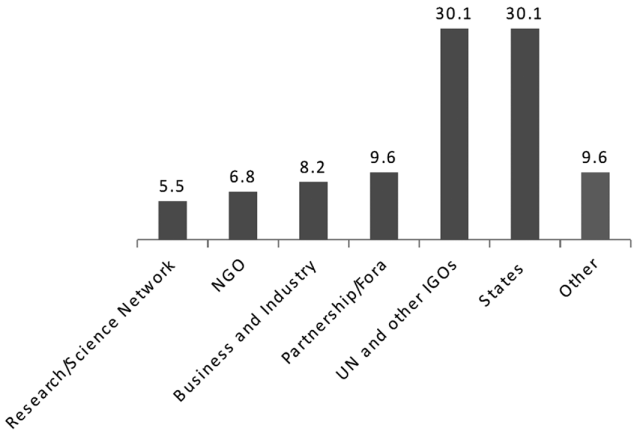

Figure 13.4. Lead partners among state and non-state actors.

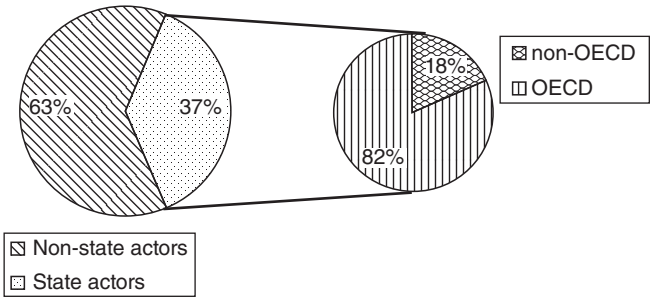

Figure 13.5. Lead partners in climate and energy partnerships.

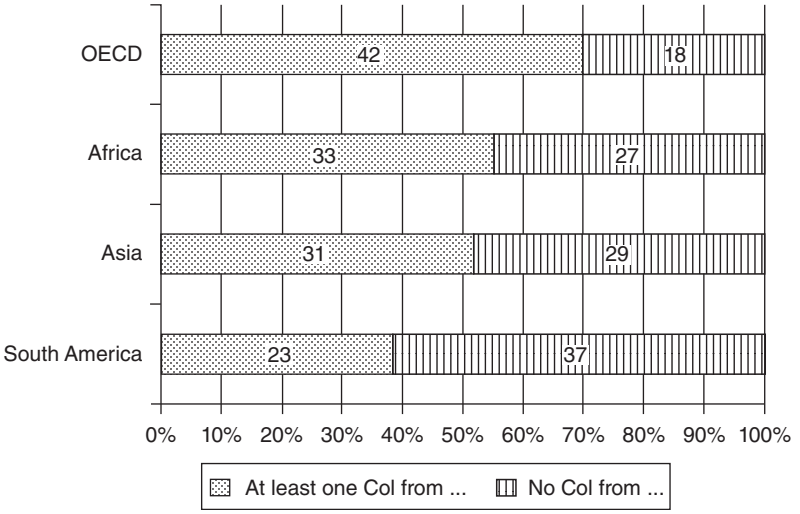

Figure 13.6. Countries of implementation.

partners (8.2 per cent) compared to the overall sample (3.2 per cent). Furthermore, analyzing the geographical origin of lead partners in climate and energy partnerships (see Figure 13.6), we observe that a majority of state-led partnerships have an OECD country (state agency or government) as a lead partner. Inversely, if the lead partner is a government, 82 per cent of the time it is an OECD country, demonstrating the dominance of Northern state actors.

Finally, among climate and energy partnerships, the group of countries that make up most of the implementation area is the OECD. This observation calls into question a number of assumptions frequently encountered in the literature. Far from being operative in those regions with the most pressing needs, partnerships seem to favor implementation contexts that are characterized by institutional stability and the rule-of-law.

Conclusions

Sustainability partnerships take on an essential role within the context of managing the many different kinds of resources that have become market-based, including access to technological knowledge integral to sustainable development. The governance of climate

change and energy is being shaped and re-oriented to refer to very different sets of activities, which is highly dependent on forms of hybrid governance in the context of the UN mandates on climate and energy, intellectual property, and environmental issues.

In this chapter, we have examined whether public–private partnerships focus on technical implementation of existing technologies, technology transfer, knowledge dissemination, and innovation. We ask whether such partnerships are effective in tackling the problems they were set up to tackle. To this end, the chapter utilized a multi-year research project on the emergence and effectiveness of PPPs for sustainable development and the corresponding large-N database (GSPD) to understand the role and relevance of PPPs in contemporary global environmental governance. The empirical focus of this chapter was on partnerships working in the climate change and/or energy field.

As stated in the chapter's introduction, three issues are of particular relevance. First, despite the transformative potential of technological and social innovations for sustainability, neither type of innovation is a dominant function (at least so far) of climate and energy partnerships. Second, significant issues pertain to the democratic legitimacy of individual partnerships, the technologies transferred, the resulting innovation regimes, and their overall orchestration by the UNCSD. Third and finally, the climate and energy partnerships surveyed here show alarmingly low levels of potential effectiveness to date.

Recent and renewed attention to the partnership model in the climate governance arena can be found in the non-state actor zone of climate action to the UNFCCC, which is crowded with PPPs.[51] Thus it is important to suggest some institutional safeguards for minimum effectiveness and accountability.[52] We want to stress in particular the necessity for a critical screening mechanism that could ensure transparency, accountability, co-benefits, and fit with the 2030 Agenda, as well as ensuring adequate levels of participation for marginalized actors in this multi-stakeholder institutional framework. Finally, while perhaps politically challenging in the current situation, the possibility of deregistering failed and underperforming partnerships from the UN registries should be considered. These measures would ensure that the full potential of PPPs for sustainable development could still be reached in the 2030 Agenda process, which is still at its early stages of implementation.

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